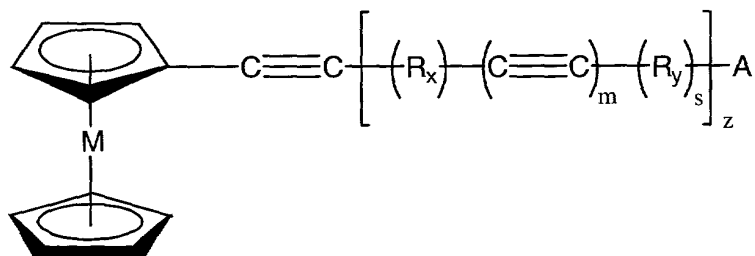


ABSTRACT

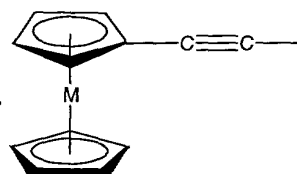
The present invention provides for a composition comprising:

a composition formed by heating to a temperature of from about 300°C and above a mixture of:

- 5 an organometallic composition and an aromatic-acetylene containing compound; and wherein said organometallic composition comprises the formula:



wherein A is selected from the group consisting of H,



and $\text{C}_6\text{H}_5 - \text{C} \equiv \text{C} -$;

10 wherein M is a metal selected independently from the group consisting of Fe, Mn, Ru, Co, Ni, Cr and V;

wherein Rx is independently selected from the group consisting of an aromatic, a substituted aromatic group and combinations thereof;

- 15 wherein Ry is independently selected from the group consisting of an aromatic, a substituted aromatic group and combinations thereof;

wherein m is ≥ 0 ;

wherein s is ≥ 0 ;

wherein z is ≥ 0 ;

wherein m and s are independently determined in each repeating unit;

wherein said aromatic-acetylene containing composition is selected from the group consisting of 1,2,4,5-tetrakis(phenylethynyl)benzene, 1,2,4-tris(phenylethynyl)benzene and
5 1,3,5-tris(phenylethynyl)benzene; and

wherein said organometallic composition and said aromatic-acetylene composition are molar mix proportions of between 1 and 99 of said organometallic composition and between 99 and 1 of said aromatic-acetylene composition.